## Research Activities on ISS and Space Exploration Beyond LEO/ISS

Masahiro Takayanagi, Ph.D.

Director, ISS Science Project Office,
Institute of Space and Astronomical Science,
Japan Aerospace Exploration Agency (JAXA)

## JAXA2025 and Space Development Basic Plan

- ✓ JAXA has establish in October 2003 after the merger of 3 governmental organizations (NASDA, ISAS and NAL) related to space and aeronautics science and technology
- ✓ April 2005, JAXA released its own vision in the next 20 years as "JAXA2025"
- ✓ Japanese government has decided "Space Development Basic Plan" in June 2009 (last year) showing Japanese plan of next 10 years' space activities and the next 20 years' strategy
- ✓Both "JAXA2025" and Japanese "Basic Plan" include lunar exploration targeting the future lunar surface utilization including manned space activity, i.e. both JAXA and Japanese government say "We will go to the Moon!"

Ensuring a secure and prosperous society with the greatest reliability and competitiveness in the world

Expanding the scope of activities beyond the Earth, facilitating cuttingedge science

Aiming to introduce Mach-5 class aircraft for faster travel between continents



Becoming Japan's next key industry

Policy of JAXA2025

## JAXA2025 - The Vision

- 1.To build a secure and prosperous society through the utilization of aerospace
  - Establishing a system for natural disaster management
  - Establishing a system for global environmental issues
- 2. To prepare for the unraveling of the mysteries of the universe and for lunar utilization, in order to seek the origins of the Earth and humankind
  - •Turning Japan into the world's leading science center through experiences of space observation and asteroid exploration
  - Establishing technologies for future lunar utilization
- 3.To implement world-class space transportation and <u>Japan's indigenous space</u> <u>activities</u>
  - •Establishing space transportation systems, such as launch vehicles and orbital transfer vehicles, with the greatest reliability and competitiveness in the world
  - •Establishing indigenous technologies for human space activities
- 4. To develop aerospace as Japan's next key industry
  - Promoting the space industry as Japan's key industry of the future
- 5. To establish Japan's aviation industry and develop supersonic aircraft
  - •Reviving aircraft manufacturing as a key industry in Japan
  - •Demonstrating the technologies for hypersonic aircraft that can cruise at Mach 5 speed and cross the Pacific Ocean within two hours

## **Lunar Resource Exploration and Science on ISS**

